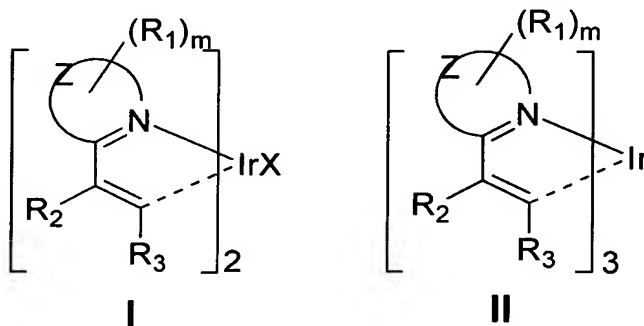


This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). An organic light emitting diode (OLED) comprising: an anode on a substrate, an electroluminescent medium on said anode, and a cathode on said electroluminescent medium, characterized in that said electroluminescent medium comprises a light emitting layer comprising a phosphorescent Ir complex having the following structures (I) or (II):



wherein X is an arbitrary monoanionic bidentate ligand;

Z is an arbitrary atomic moiety capable of forming a nitrogen-containing heterocyclic group;

R₁ is selected from the group consisting of H, halogen, C1-C6 alkyl, halogen-substituted C1-C6 alkyl, C1-C6 alkoxy, phenyl C1-C6 alkyl, amino, and aryl;

m is 0 or any positive integer determined by the ring size of said nitrogen-containing heterocyclic group;

~~R₂ and R₃ independently are~~ is selected from the group consisting of H, halogen, C1-C6 alkyl, halogen-substituted C1-C6 alkyl, C1-C6 alkoxy, phenyl C1-C6 alkyl, amino, aryl, and heterocyclic aryl[[.]]; and

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R₃ is aryl or heterocyclic aryl, provided that said nitrogen-containing heterocyclic group is not pyridine, quinoline or isoquinoline.

2(currently amended). The OLED as claimed in Claim 1, wherein said aryl is phenyl, naphthyl, diphenyl, anthryl, pyrenyl, or phenanthryl; said heterocyclic aryl is benzofuran[[e]] or thiophene.

3(currently amended). The OLED as claimed in Claim 1, wherein said nitrogen-containing heterocyclic group is ~~pyridine, quinoline, isoquinoline,~~ pyrazine, pyrimidine, pyrrole, pyrazole, imidazole, indole, thiazole, isothiazole, oxazole, isoxazole, benzothiazole, benzoxazole, or phenanthroline.

4(currently amended). The OLED as claimed in Claim 1, wherein R₂ is H or methyl; and R₃ is ~~C1-C6 alkyl~~ or aryl group.

5(currently amended). The OLED as claimed in Claim 4 wherein R₃ is ~~methyl,~~ phenyl or naphthyl.

6(currently amended). The OLED as claimed in Claim 1, wherein said phosphorescent Ir complex has the structures (I), and X is acetylacetonate, aminoacid, salicylaldehyde, or iminoacetate.

7(original). The OLED as claimed in Claim 6, wherein X is acetylacetonate.

8(canceled).

9(original). The OLED as claimed in Claim 1, wherein said light emitting layer will emit yellow to red light, when a voltage is applied on said anode and said cathode.

10(original). The OLED as claimed in Claim 1, wherein said light emitting layer

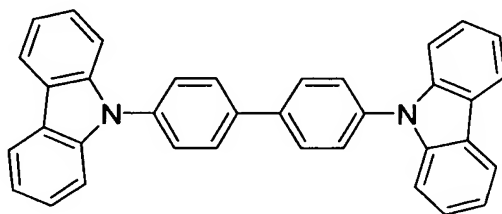
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further comprises a host compound, and said Ir complex is doped into said host compound.

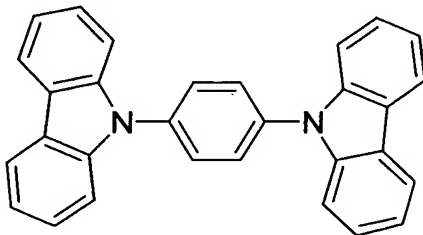
11(original). The OLED as claimed in Claim 10, wherein said host compound is a compound having a hole transporting capability.

12(original). The OLED as claimed in Claim 10, wherein said host compound is a compound having an electron transporting capability.

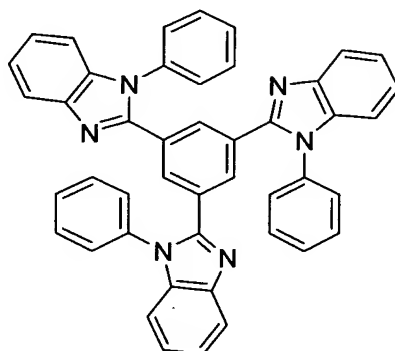
13(original). The OLED as claimed in Claim 11, wherein said compound having a hole transporting capability is:



14(original). The OLED as claimed in Claim 11, wherein said compound having a hole transporting capability is:

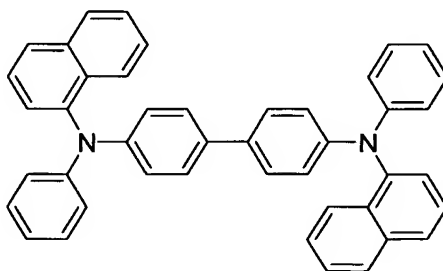


15(original). The OLED as claimed in Claim 12, wherein said compound having an electron transporting capability is:



16(original). The OLED as claimed in Claim 1, wherein said electroluminescent medium further comprises a hole transporting layer between said anode and said light emitting layer.

17(original). The OLED as claimed in Claim 16, wherein said hole transporting layer comprises a compound of the following structure:



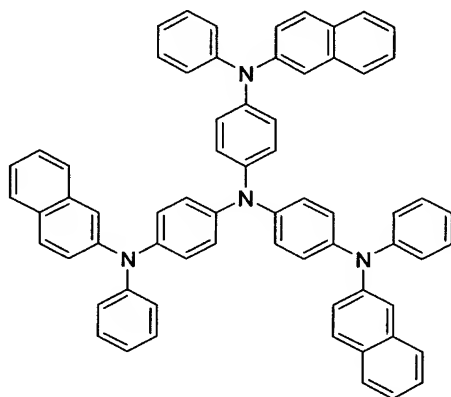
18(original). The OLED as claimed in Claim 16, wherein said electroluminescent medium further comprises a hole injection modification layer between said anode and said hole transporting layer.

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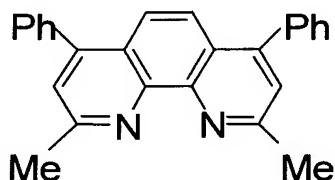
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19(original). The OLED as claimed in Claim 18, wherein said hole injection modification layer comprises a compound of the following structure:



20(original). The OLED as claimed in Claim 1, wherein said electroluminescent medium further comprises a hole-blocking layer between said cathode and said light emitting layer, and said hole-blocking layer contacts said light emitting layer.

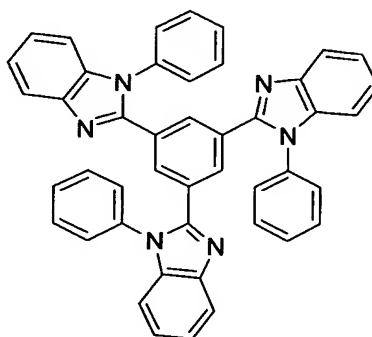
21(original). The OLED as claimed in Claim 20, wherein said hole-blocking layer comprises a compound of the following structure:



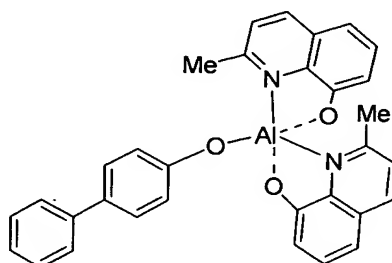
wherein Ph is phenyl, and Me is methyl.

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22(original). The OLED as claimed in Claim 20, wherein said hole-blocking layer comprises a compound of the following structure:



23(original). The OLED as claimed in Claim 20, wherein said hole-blocking layer comprises a compound of the following structure:

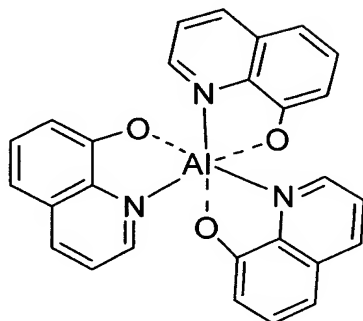


wherein Me is methyl.

24(original). The OLED as claimed in Claim 20, wherein said electroluminescent medium further comprises an electron transporting layer between said hole-blocking layer and said cathode.

25(original). The OLED as claimed in Claim 24, wherein said electron transporting layer comprises a compound of the following structure:

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26(new). The OLED as claimed in Claim 3, wherein said nitrogen-containing heterocyclic group is benzothiazole.

27(new). The OLED as claimed in Claim 6, wherein X is aminoacid or salicylaldehyde.

28(new). The OLED as claimed in Claim 1, wherein said phosphorescent Ir complex is

